



Sample name: **Pyridoxine HCl**
Assay name: **UV-metric psKa**
Assay ID: **18E-22012**
Filename: **C:\Sirius_T3\18E-22012_Pyridoxine HCl_UV-metric psKa_0417936-0002.t3r**

Experiment start time: **5/22/2018 1:35:32 PM**
Analyst: **Dorothy Levorse**
Instrument ID: **T311053**

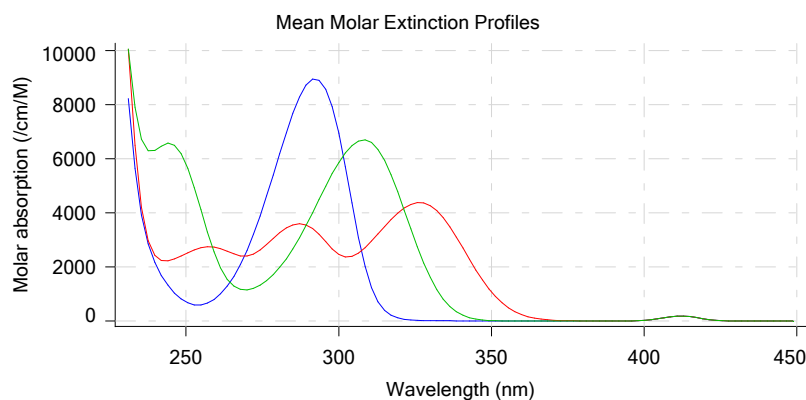
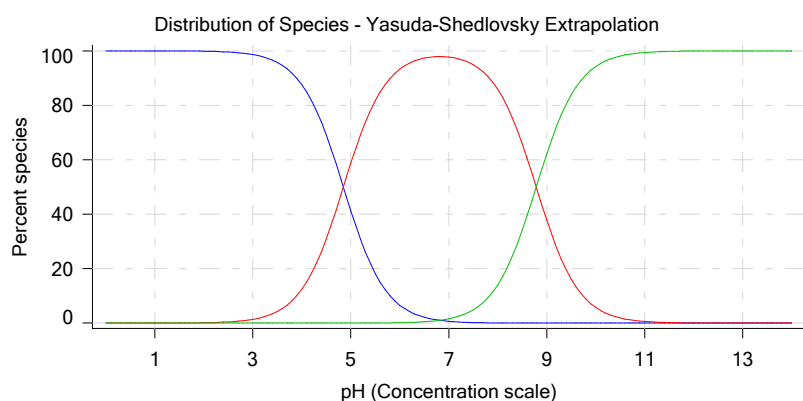
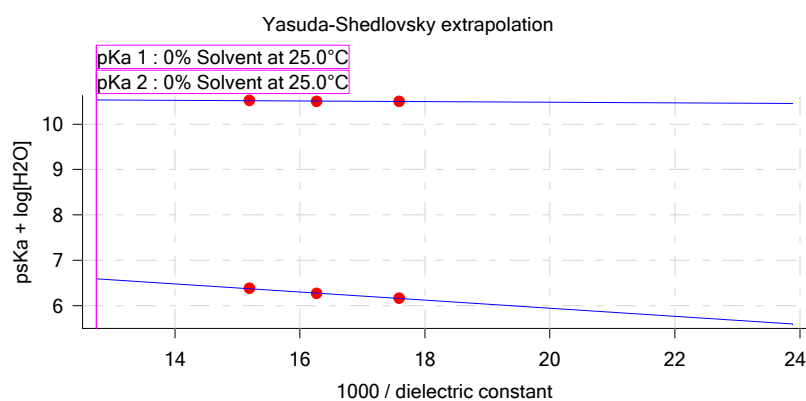
Yasuda-Shedlovsky result

Extrapolation type	pKa 0%	SD	Intercept	Slope	R ²	Ionic strength	Temperature
Yasuda-Shedlovsky	4.85	±0.02	7.73	-89.5664	0.9949	0.167 M	25.0°C
Yasuda-Shedlovsky	8.79	±0.01	10.61	-6.5842	0.7509	0.167 M	25.0°C

Component assay results

Titration	Methanol weight%	Direction	Result type	Dielectric constant	[H2O]	Ionic strength	Temperature	psKa 1	psKa 2
18E-22012 Points 4 to 43	48.97 %	Up	UV-metric pKa	56.8	25.0 M	0.158 M	25.0°C	✓	4.76 ✓
18E-22012 Points 45 to 88	38.95 %	Up	UV-metric pKa	61.5	30.6 M	0.168 M	25.0°C	✓	4.78 ✓
18E-22012 Points 90 to 134	29.32 %	Up	UV-metric pKa	65.8	36.3 M	0.174 M	25.0°C	✓	4.82 ✓

Graphs



UV-metric psKa_0417936-0002 Titration 1 of 3 18E-22012 Points 4 to 43

Results

pKa 1 **4.76**
pKa 2 **9.10**
RMSD **0.036 0.029 0.023**
Chi squared **0.1560**
PCA calculated number of pKas **4**
Average ionic strength **0.158 M**
Average temperature **25.0°C**
Analyte concentration range **60.6 µM to 56.8 µM**
Methanol weight % **49.0 %**
Dielectric constant **56.8**
Water concentration **25.0 M**

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Results (continued)

Number of pKas source **Predicted**
 Wavelength clipping **230.0 nm to 450.0 nm**
 pH clipping **1.460 to 12.540**

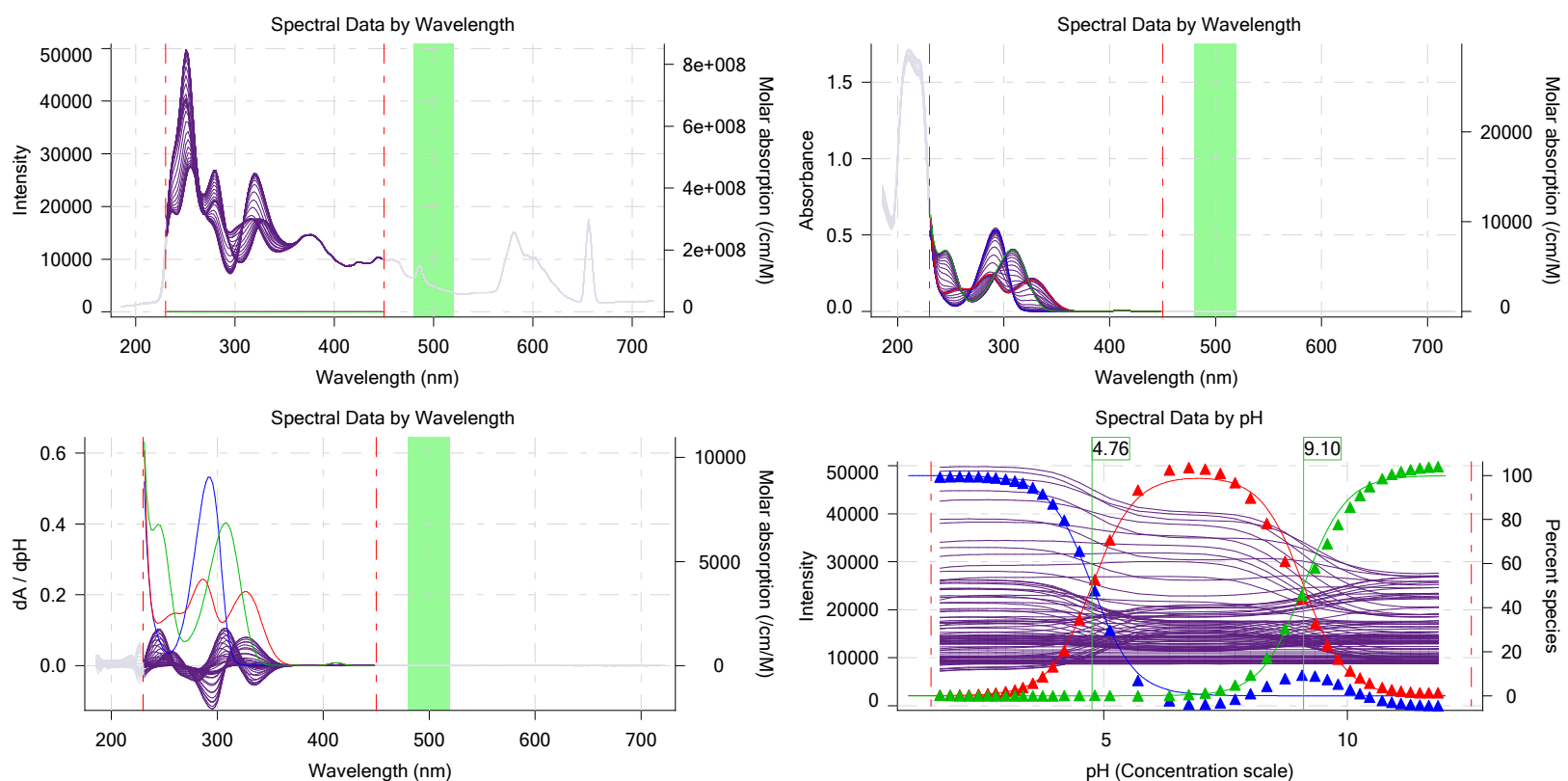
Warnings and errors

Errors None
 Warnings PCA calculation disagrees with predicted number of pKas

Assay Settings

Setting	Value	Original Value	Date/Time changed	Imported from
Buffer in use	Yes			
Buffer type	Phosphate Buffer			
Assay Medium				
Volume of buffer introduced	0.025000 mL			
Add buffer manually	Manual			

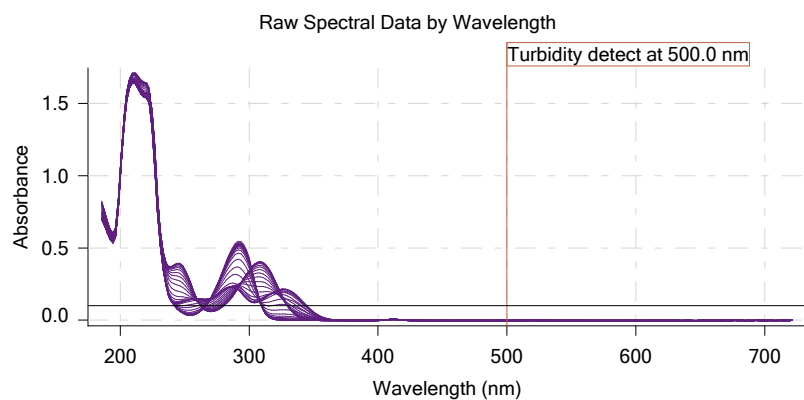
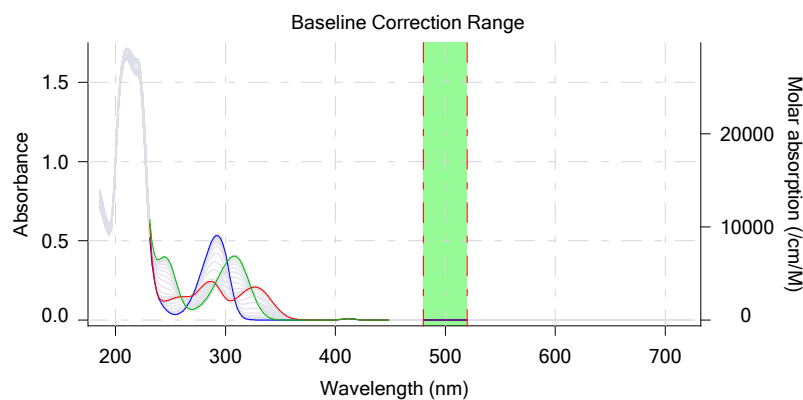
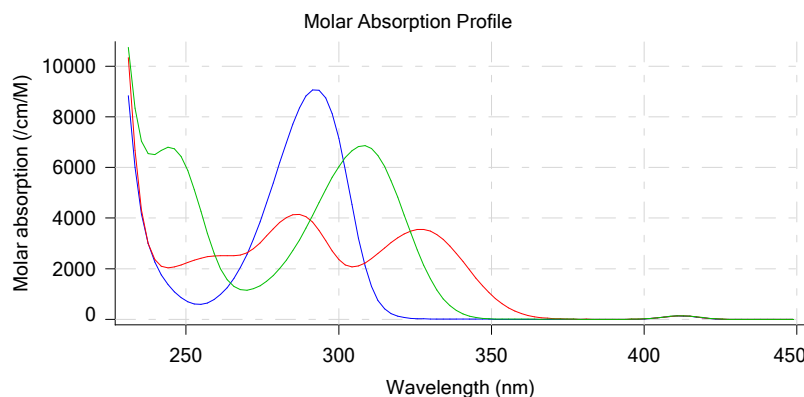
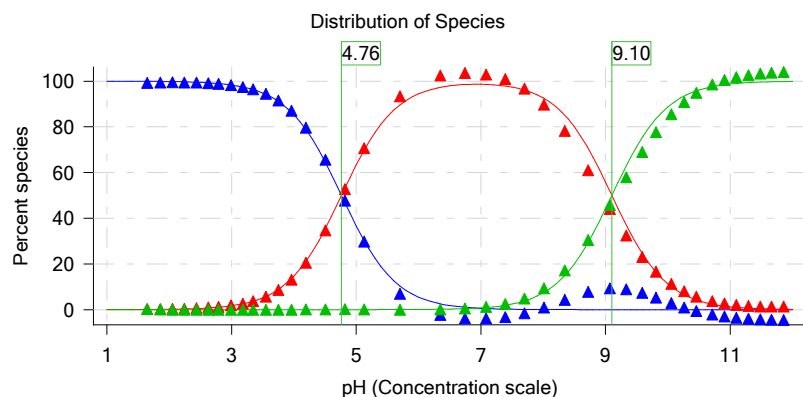
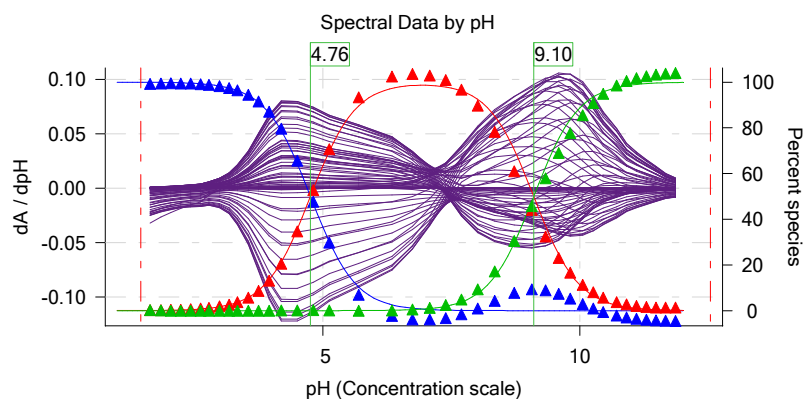
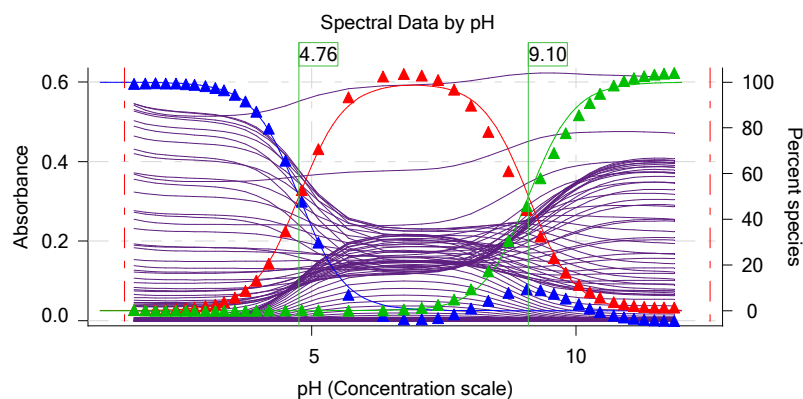
Graphs



Sample name: **Pyridoxine HCl**
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 Assay ID: **18E-22012**
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Experiment start time: **5/22/2018 1:35:32 PM**
 Analyst: **Dorothy Levorse**
 Instrument ID: **T311053**

Graphs (continued)



UV-metric psKa_0417936-0002 Titration 2 of 3 18E-22012 Points 45 to 88

Results

pKa 1 **4.78**
 pKa 2 **9.01**
 RMSD **0.045 0.033 0.031**
 Chi squared **0.2304**
 PCA calculated number of pKas **3**
 Average ionic strength **0.168 M**
 Average temperature **25.0°C**
 Analyte concentration range **49.2 µM to 46.2 µM**
 Methanol weight % **38.9 %**
 Dielectric constant **61.5**
 Water concentration **30.6 M**

Sample name: **Pyridoxine HCl**
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Experiment start time: **5/22/2018 1:35:32 PM**
 Analyst: **Dorothy Levorse**
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Results (continued)

Number of pKas source **Predicted**
 Wavelength clipping **230.0 nm to 450.0 nm**
 pH clipping **1.474 to 12.543**

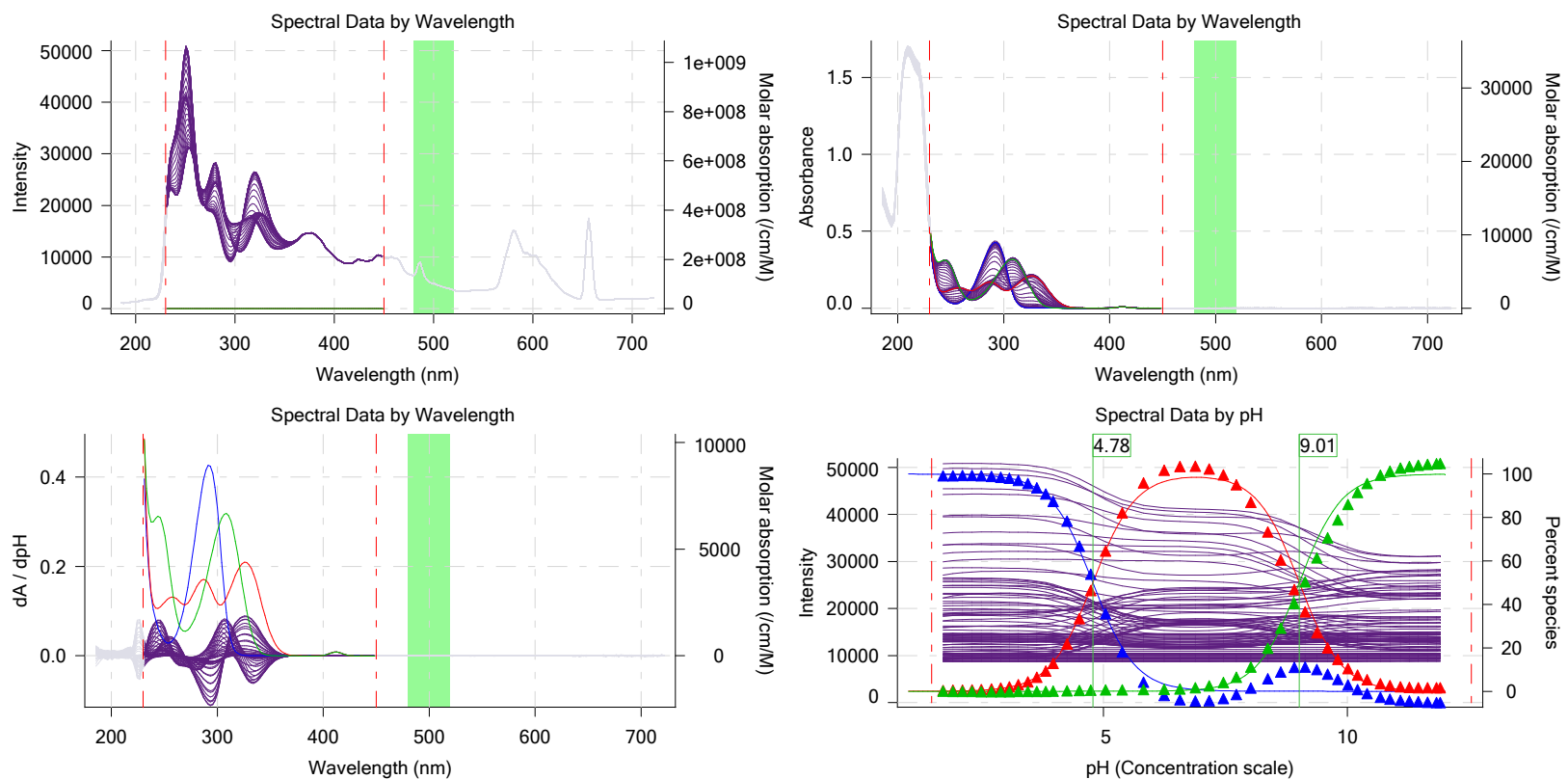
Warnings and errors

Errors **None**
 Warnings **PCA calculation disagrees with predicted number of pKas**

Assay Settings

Setting	Value	Original Value	Date/Time changed	Imported from
Buffer in use	Yes			
Buffer type	Phosphate Buffer			
Assay Medium				
Volume of buffer introduced	0.025000 mL			
Add buffer manually	Manual			

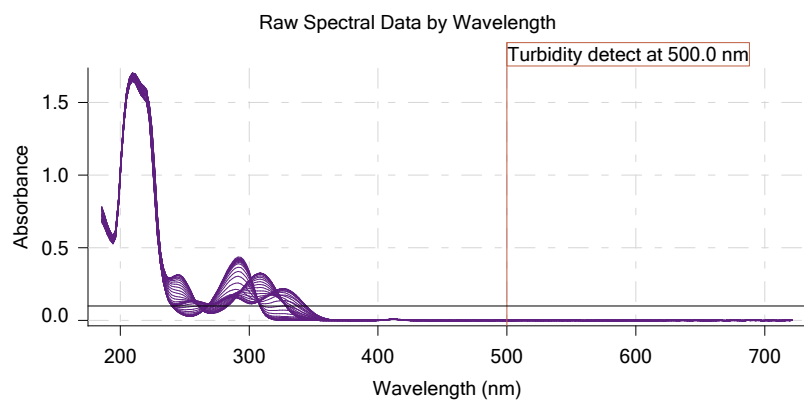
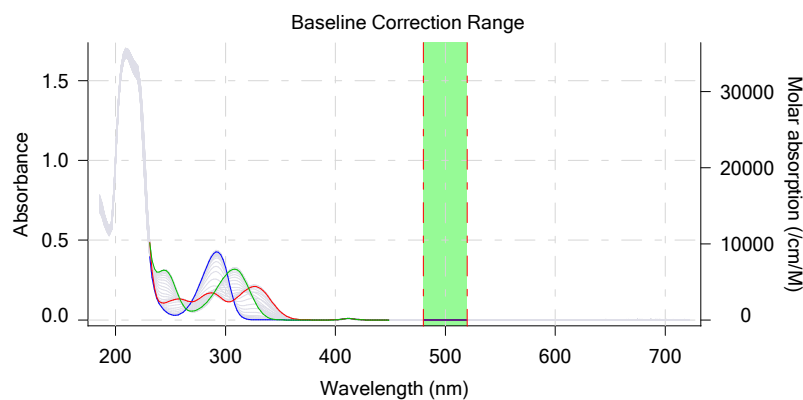
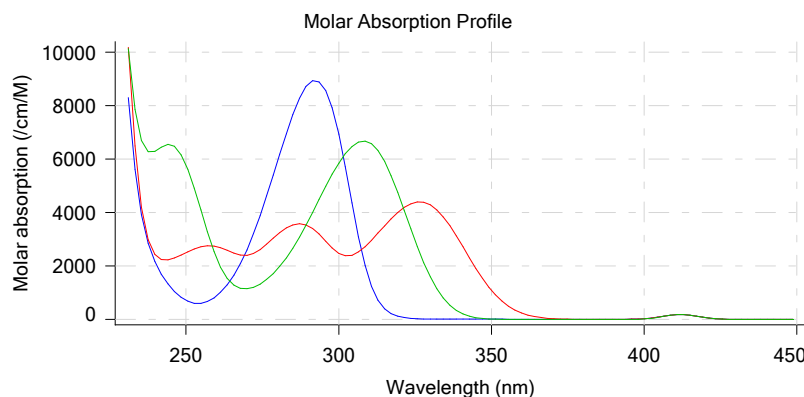
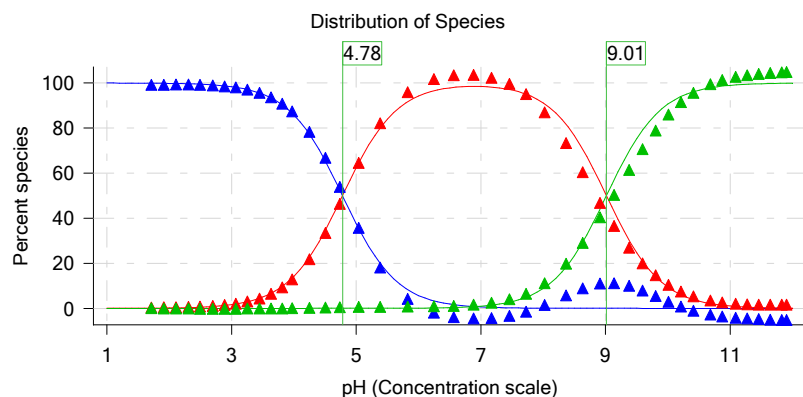
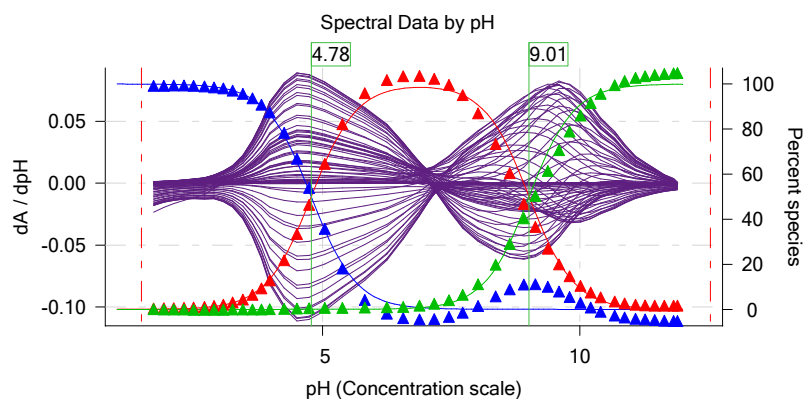
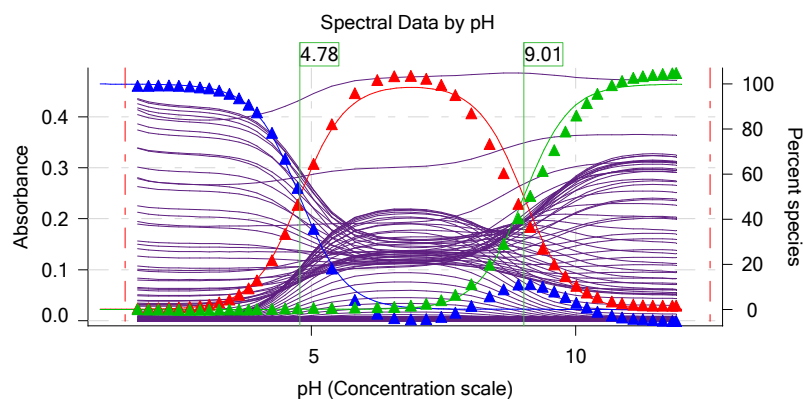
Graphs



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Experiment start time: **5/22/2018 1:35:32 PM**
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 Instrument ID: **T311053**

Graphs (continued)



UV-metric psKa_0417936-0002 Titration 3 of 3 18E-22012 Points 90 to 134

Results

pKa 1 **4.82**
 pKa 2 **8.96**
 RMSD **0.045 0.031 0.035**
 Chi squared **0.2714**
 PCA calculated number of pKas **3**
 Average ionic strength **0.174 M**
 Average temperature **25.0°C**
 Analyte concentration range **37.6 µM to 35.6 µM**
 Methanol weight % **29.3 %**
 Dielectric constant **65.8**
 Water concentration **36.3 M**

Sample name: **Pyridoxine HCl**
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 Assay ID: **18E-22012**
 Filename: **C:\Sirius_T3\18E-22012_Pyridoxine HCl_UV-metric psKa_0417936-0002.t3r**

Experiment start time: **5/22/2018 1:35:32 PM**
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Results (continued)

Number of pKas source **Predicted**
 Wavelength clipping **230.0 nm to 450.0 nm**
 pH clipping **1.531 to 12.523**

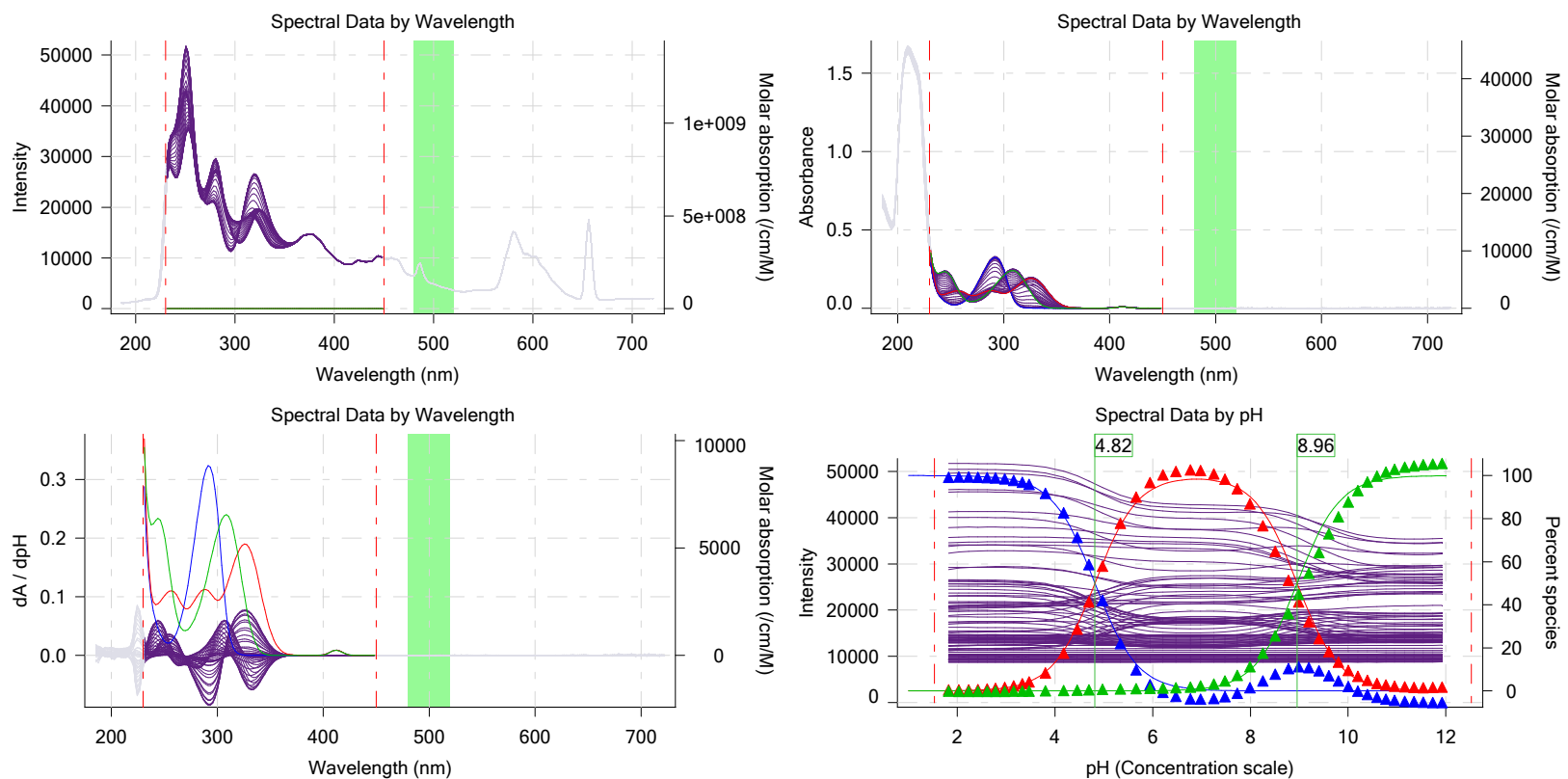
Warnings and errors

Errors None
 Warnings PCA calculation disagrees with predicted number of pKas

Assay Settings

Setting	Value	Original Value	Date/Time changed	Imported from
Buffer in use	Yes			
Buffer type	Phosphate Buffer			
Assay Medium				
Volume of buffer introduced	0.025000 mL			
Add buffer manually	Manual			

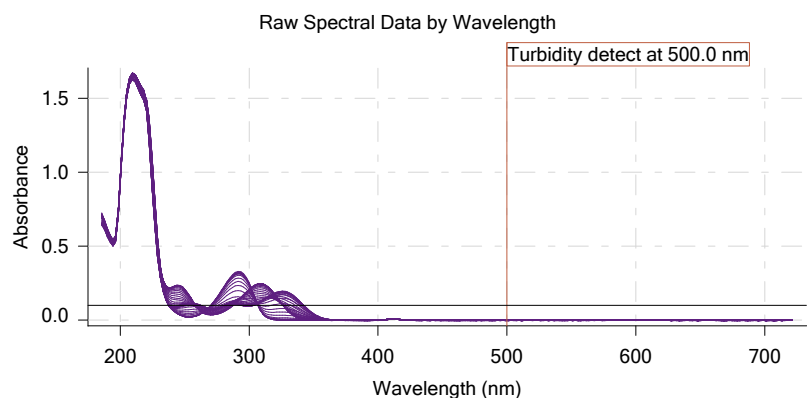
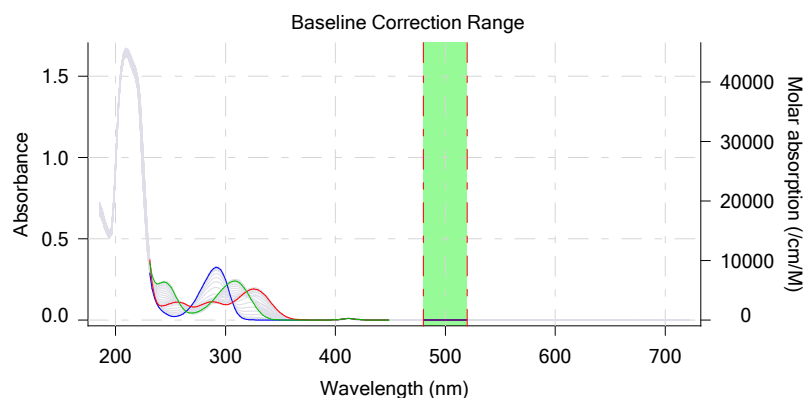
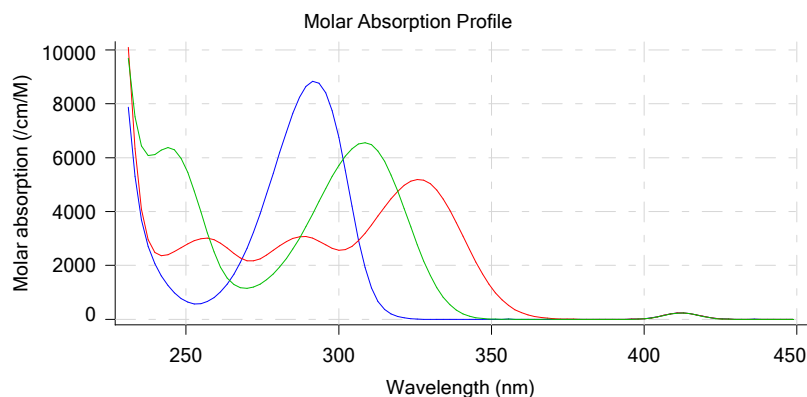
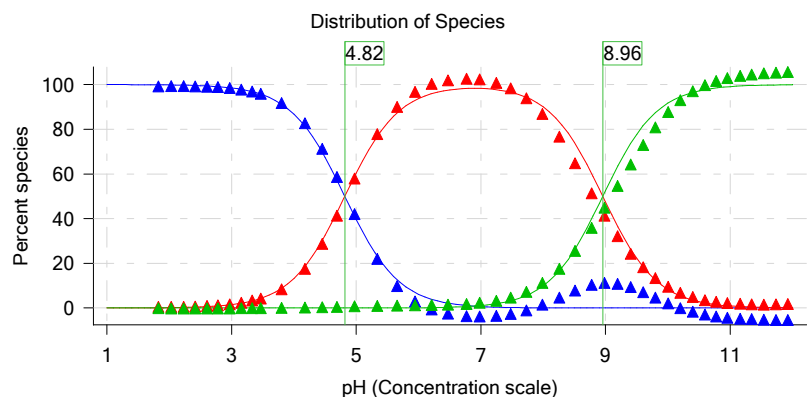
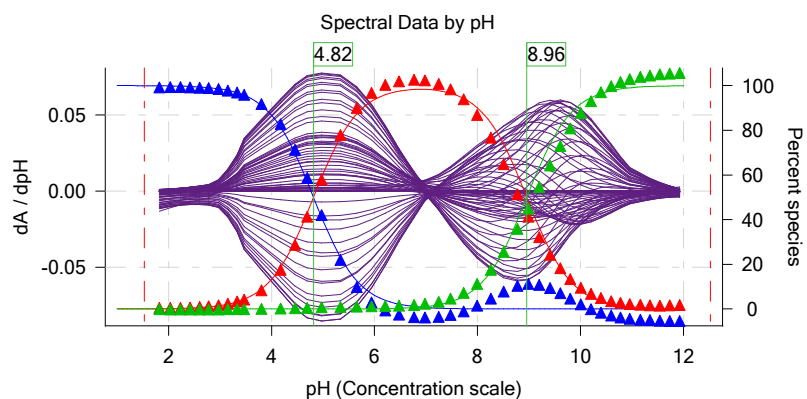
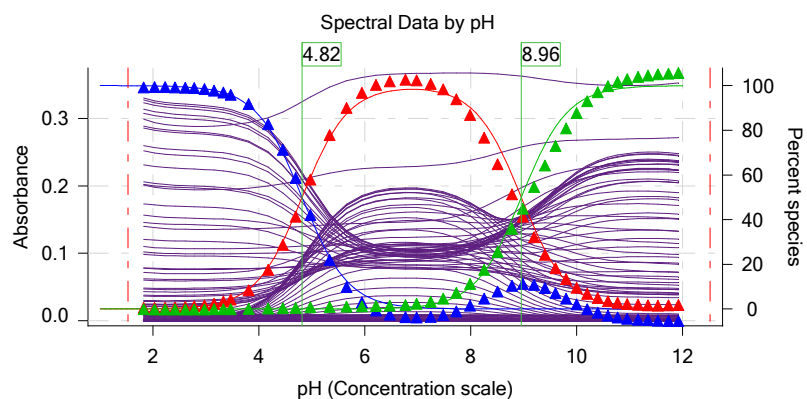
Graphs



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Experiment start time: **5/22/2018 1:35:32 PM**
 Analyst: **Dorothy Levorse**
 Instrument ID: **T311053**

Graphs (continued)



Assay Model

Settings

Settings	Value	Date/Time changed	Imported from
Sample name	Pyridoxine HCl	5/22/2018 9:07:27 AM	User entered value
Sample by	Volume		Default value
Sample volume	0.0020 mL	5/22/2018 9:07:27 AM	User entered value
Solvent	DMSO		Default value
Sample concentration	0.048630 M	5/22/2018 9:07:27 AM	User entered value
Solubility	Unknown		Default value
Molecular weight	205.64	5/22/2018 9:07:35 AM	User entered value
Individual pKa ionic environments	No		Default value
Number of pKas	2	5/22/2018 9:07:27 AM	User entered value
Sample is a	Ampholyte	5/22/2018 9:07:27 AM	User entered value
pKa 1	4.90	5/22/2018 9:07:27 AM	User entered value
Type	Base	5/22/2018 9:07:27 AM	User entered value
pKa 2	8.80	5/22/2018 9:07:27 AM	User entered value
Type	Acid	5/22/2018 9:07:27 AM	User entered value

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Assay Model (continued)

Settings	Value	Date/Time changed	Imported from
logp (XH2 +)	-10.00		Default value
logP (neutral XH)	-10.00	5/22/2018 9:07:27 AM	User entered value
logP (X -)	-10.00		Default value
Stoichiometry	1.00000		Default value
Aprotic counterion name	Chloride		From standards.xml file
Stoichiometry	1.00		From standards.xml file
Charge per counterion	-1		From standards.xml file

Events

Time	Event	Water	Acid	Base	Methanol	Buffer	pH	dpH/dt	pH R-square
3:46.9	Dark spectrum								
3:48.3	Reference spectrum								
4:15.9	Volume reset due to vial change								
5:00.2	Initial pH = 7.86								
6:10.8	Data point 4	0.34995 mL	0.07681 mL	0.00000 mL	1.15005 mL	0.02500 mL	1.960	-0.00262	0.18608
6:39.7	Data point 5	0.34995 mL	0.07681 mL	0.02785 mL	1.15005 mL	0.02500 mL	2.161	0.00506	0.48029
6:56.7	Data point 6	0.34995 mL	0.07681 mL	0.04461 mL	1.15005 mL	0.02500 mL	2.352	0.02921	0.81795
7:13.7	Data point 7	0.34995 mL	0.07681 mL	0.05536 mL	1.15005 mL	0.02500 mL	2.541	0.00204	0.06226
7:30.5	Data point 8	0.34995 mL	0.07681 mL	0.06232 mL	1.15005 mL	0.02500 mL	2.731	0.02084	0.95103
7:47.2	Data point 9	0.34995 mL	0.07681 mL	0.06677 mL	1.15005 mL	0.02500 mL	2.918	0.02803	0.94078
8:04.0	Data point 10	0.34995 mL	0.07681 mL	0.06964 mL	1.15005 mL	0.02500 mL	3.080	0.01520	0.93331
8:36.1	Data point 11	0.34995 mL	0.07681 mL	0.07154 mL	1.15005 mL	0.02500 mL	3.279	0.01557	0.93093
8:52.9	Data point 12	0.34995 mL	0.07681 mL	0.07279 mL	1.15005 mL	0.02500 mL	3.465	0.00821	0.58554
9:09.5	Data point 13	0.34995 mL	0.07681 mL	0.07361 mL	1.15005 mL	0.02500 mL	3.628	0.01544	0.87596
9:41.6	Data point 14	0.34995 mL	0.07681 mL	0.07439 mL	1.15005 mL	0.02500 mL	3.832	0.03961	0.98583
10:13.7	Data point 15	0.34995 mL	0.07681 mL	0.07484 mL	1.15005 mL	0.02500 mL	4.032	0.05603	0.99076
10:35.5	Data point 16	0.34995 mL	0.07681 mL	0.07512 mL	1.15005 mL	0.02500 mL	4.235	0.08548	0.97529
10:57.3	Data point 17	0.34995 mL	0.07681 mL	0.07538 mL	1.15005 mL	0.02500 mL	4.468	0.10052	0.99340
11:31.3	Data point 18	0.34995 mL	0.07681 mL	0.07561 mL	1.15005 mL	0.02500 mL	4.775	0.10035	0.99387
12:17.3	Data point 19	0.34995 mL	0.07681 mL	0.07578 mL	1.15005 mL	0.02500 mL	5.084	0.09837	0.98761
13:10.9	Data point 20	0.34995 mL	0.07681 mL	0.07599 mL	1.15005 mL	0.02500 mL	5.391	0.09080	0.92070
14:02.8	Data point 21	0.34995 mL	0.07681 mL	0.07622 mL	1.15005 mL	0.02500 mL	5.958	0.10038	0.99058
15:10.7	Data point 22	0.34995 mL	0.07681 mL	0.07636 mL	1.15005 mL	0.02500 mL	6.599	0.10100	0.99618
16:12.1	Data point 23	0.34995 mL	0.07681 mL	0.07651 mL	1.15005 mL	0.02500 mL	6.992	0.10062	0.98872
17:04.0	Data point 24	0.34995 mL	0.07681 mL	0.07665 mL	1.15005 mL	0.02500 mL	7.325	0.10067	0.99449
17:54.0	Data point 25	0.34995 mL	0.07681 mL	0.07679 mL	1.15005 mL	0.02500 mL	7.629	0.09907	0.98294
18:39.9	Data point 26	0.34995 mL	0.07681 mL	0.07695 mL	1.15005 mL	0.02500 mL	7.933	0.09862	0.98671
19:26.5	Data point 27	0.34995 mL	0.07681 mL	0.07712 mL	1.15005 mL	0.02500 mL	8.245	0.09931	0.98811
20:13.1	Data point 28	0.34995 mL	0.07681 mL	0.07726 mL	1.15005 mL	0.02500 mL	8.573	0.09687	0.98688
20:59.8	Data point 29	0.34995 mL	0.07681 mL	0.07740 mL	1.15005 mL	0.02500 mL	8.945	0.09799	0.98364
21:42.8	Data point 30	0.34995 mL	0.07681 mL	0.07754 mL	1.15005 mL	0.02500 mL	9.288	0.09809	0.97889
22:23.3	Data point 31	0.34995 mL	0.07681 mL	0.07766 mL	1.15005 mL	0.02500 mL	9.549	0.09709	0.97913
23:01.1	Data point 32	0.34995 mL	0.07681 mL	0.07780 mL	1.15005 mL	0.02500 mL	9.800	0.09788	0.97909
23:34.0	Data point 33	0.34995 mL	0.07681 mL	0.07796 mL	1.15005 mL	0.02500 mL	10.021	0.09974	0.97306
23:56.3	Data point 34	0.34995 mL	0.07681 mL	0.07817 mL	1.15005 mL	0.02500 mL	10.263	0.05574	0.96090
24:28.3	Data point 35	0.34995 mL	0.07681 mL	0.07850 mL	1.15005 mL	0.02500 mL	10.466	0.03725	0.96369
24:55.2	Data point 36	0.34995 mL	0.07681 mL	0.07893 mL	1.15005 mL	0.02500 mL	10.659	0.01482	0.94120
25:11.9	Data point 37	0.34995 mL	0.07681 mL	0.07959 mL	1.15005 mL	0.02500 mL	10.915	0.01430	0.91822
25:38.8	Data point 38	0.34995 mL	0.07681 mL	0.08076 mL	1.15005 mL	0.02500 mL	11.107	0.00457	0.50168
25:55.6	Data point 39	0.34995 mL	0.07681 mL	0.08262 mL	1.15005 mL	0.02500 mL	11.295	0.00375	0.77087
26:12.3	Data point 40	0.34995 mL	0.07681 mL	0.08549 mL	1.15005 mL	0.02500 mL	11.485	0.00291	0.24561
26:29.1	Data point 41	0.34995 mL	0.07681 mL	0.08996 mL	1.15005 mL	0.02500 mL	11.673	-0.00043	0.01418
26:45.9	Data point 42	0.34995 mL	0.07681 mL	0.09692 mL	1.15005 mL	0.02500 mL	11.852	-0.00055	0.01631
27:02.9	Data point 43	0.34995 mL	0.07681 mL	0.10750 mL	1.15005 mL	0.02500 mL	12.040	0.00529	0.56810
28:45.1	Reference spectrum								
29:49.6	Data point 45	0.50000 mL	0.19196 mL	0.10753 mL	1.15005 mL	0.02500 mL	1.974	-0.09833	0.97177

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Experiment start time: **5/22/2018 1:35:32 PM**
 Analyst: **Dorothy Levorse**
 Instrument ID: **T311053**

Events (continued)

Time	Event	Water	Acid	Base	Methanol	Buffer	pH	dpH/dt	pH R-squared	pH SD
30:19.3	Data point 46	0.50000 mL	0.19196 mL	0.13984 mL	1.15005 mL	0.02500 mL	2.170	0.00325	0.36132	0.00
30:36.4	Data point 47	0.50000 mL	0.19196 mL	0.15790 mL	1.15005 mL	0.02500 mL	2.357	0.00633	0.36424	0.00
30:53.3	Data point 48	0.50000 mL	0.19196 mL	0.16952 mL	1.15005 mL	0.02500 mL	2.553	0.00298	0.11344	0.00
31:10.2	Data point 49	0.50000 mL	0.19196 mL	0.17691 mL	1.15005 mL	0.02500 mL	2.735	-0.00019	0.00047	0.00
31:27.0	Data point 50	0.50000 mL	0.19196 mL	0.18180 mL	1.15005 mL	0.02500 mL	2.941	0.00556	0.23229	0.00
31:43.8	Data point 51	0.50000 mL	0.19196 mL	0.18478 mL	1.15005 mL	0.02500 mL	3.127	0.01379	0.85718	0.00
32:00.5	Data point 52	0.50000 mL	0.19196 mL	0.18674 mL	1.15005 mL	0.02500 mL	3.306	0.00871	0.81949	0.00
32:17.3	Data point 53	0.50000 mL	0.19196 mL	0.18801 mL	1.15005 mL	0.02500 mL	3.487	0.01813	0.94453	0.00
32:34.1	Data point 54	0.50000 mL	0.19196 mL	0.18885 mL	1.15005 mL	0.02500 mL	3.680	0.03011	0.98819	0.00
32:50.8	Data point 55	0.50000 mL	0.19196 mL	0.18939 mL	1.15005 mL	0.02500 mL	3.863	0.03366	0.93520	0.00
33:07.5	Data point 56	0.50000 mL	0.19196 mL	0.18975 mL	1.15005 mL	0.02500 mL	4.041	0.05179	0.99213	0.00
33:24.2	Data point 57	0.50000 mL	0.19196 mL	0.18998 mL	1.15005 mL	0.02500 mL	4.196	0.05519	0.99390	0.00
33:46.0	Data point 58	0.50000 mL	0.19196 mL	0.19024 mL	1.15005 mL	0.02500 mL	4.476	0.09086	0.99504	0.00
34:07.8	Data point 59	0.50000 mL	0.19196 mL	0.19040 mL	1.15005 mL	0.02500 mL	4.725	0.10032	0.98974	0.00
34:34.5	Data point 60	0.50000 mL	0.19196 mL	0.19052 mL	1.15005 mL	0.02500 mL	4.958	0.09910	0.96735	0.00
35:11.4	Data point 61	0.50000 mL	0.19196 mL	0.19064 mL	1.15005 mL	0.02500 mL	5.257	0.09878	0.99018	0.00
35:51.9	Data point 62	0.50000 mL	0.19196 mL	0.19073 mL	1.15005 mL	0.02500 mL	5.597	0.09974	0.99368	0.00
36:39.3	Data point 63	0.50000 mL	0.19196 mL	0.19083 mL	1.15005 mL	0.02500 mL	6.032	0.09907	0.99027	0.00
37:30.1	Data point 64	0.50000 mL	0.19196 mL	0.19092 mL	1.15005 mL	0.02500 mL	6.451	0.10056	0.99188	0.00
38:18.3	Data point 65	0.50000 mL	0.19196 mL	0.19102 mL	1.15005 mL	0.02500 mL	6.765	0.09938	0.99220	0.00
39:02.7	Data point 66	0.50000 mL	0.19196 mL	0.19113 mL	1.15005 mL	0.02500 mL	7.082	0.09974	0.99271	0.00
39:45.2	Data point 67	0.50000 mL	0.19196 mL	0.19128 mL	1.15005 mL	0.02500 mL	7.365	0.09701	0.97636	0.00
40:23.6	Data point 68	0.50000 mL	0.19196 mL	0.19142 mL	1.15005 mL	0.02500 mL	7.651	0.09806	0.98564	0.00
41:02.0	Data point 69	0.50000 mL	0.19196 mL	0.19156 mL	1.15005 mL	0.02500 mL	7.913	0.09750	0.98159	0.00
41:41.6	Data point 70	0.50000 mL	0.19196 mL	0.19170 mL	1.15005 mL	0.02500 mL	8.209	0.09558	0.97711	0.00
42:25.2	Data point 71	0.50000 mL	0.19196 mL	0.19184 mL	1.15005 mL	0.02500 mL	8.551	0.09943	0.98562	0.00
43:04.2	Data point 72	0.50000 mL	0.19196 mL	0.19196 mL	1.15005 mL	0.02500 mL	8.817	0.09656	0.96151	0.00
43:40.7	Data point 73	0.50000 mL	0.19196 mL	0.19207 mL	1.15005 mL	0.02500 mL	9.090	0.09529	0.96154	0.00
44:15.0	Data point 74	0.50000 mL	0.19196 mL	0.19219 mL	1.15005 mL	0.02500 mL	9.312	0.09918	0.97807	0.00
44:45.3	Data point 75	0.50000 mL	0.19196 mL	0.19236 mL	1.15005 mL	0.02500 mL	9.551	0.09905	0.96394	0.00
45:18.0	Data point 76	0.50000 mL	0.19196 mL	0.19254 mL	1.15005 mL	0.02500 mL	9.767	0.06335	0.96837	0.00
45:50.0	Data point 77	0.50000 mL	0.19196 mL	0.19278 mL	1.15005 mL	0.02500 mL	9.972	0.04059	0.95054	0.00
46:11.9	Data point 78	0.50000 mL	0.19196 mL	0.19306 mL	1.15005 mL	0.02500 mL	10.179	0.02531	0.97189	0.00
46:44.0	Data point 79	0.50000 mL	0.19196 mL	0.19356 mL	1.15005 mL	0.02500 mL	10.377	0.01925	0.96277	0.00
47:15.8	Data point 80	0.50000 mL	0.19196 mL	0.19424 mL	1.15005 mL	0.02500 mL	10.571	0.00903	0.45590	0.00
47:42.8	Data point 81	0.50000 mL	0.19196 mL	0.19574 mL	1.15005 mL	0.02500 mL	10.841	0.00473	0.70575	0.00
48:09.8	Data point 82	0.50000 mL	0.19196 mL	0.19725 mL	1.15005 mL	0.02500 mL	11.033	0.00100	0.06278	0.00
48:26.6	Data point 83	0.50000 mL	0.19196 mL	0.19946 mL	1.15005 mL	0.02500 mL	11.242	0.00200	0.18278	0.00
48:43.4	Data point 84	0.50000 mL	0.19196 mL	0.20303 mL	1.15005 mL	0.02500 mL	11.424	-0.00038	0.01035	0.00
49:00.2	Data point 85	0.50000 mL	0.19196 mL	0.20849 mL	1.15005 mL	0.02500 mL	11.607	0.00144	0.09200	0.00
49:17.1	Data point 86	0.50000 mL	0.19196 mL	0.21689 mL	1.15005 mL	0.02500 mL	11.789	0.00342	0.43917	0.00
49:34.1	Data point 87	0.50000 mL	0.19196 mL	0.22987 mL	1.15005 mL	0.02500 mL	11.971	0.00755	0.66120	0.00
49:50.9	Data point 88	0.50000 mL	0.19196 mL	0.23676 mL	1.15005 mL	0.02500 mL	12.043	-0.00055	0.01556	0.00
51:52.8	Reference spectrum									
53:01.0	Data point 90	0.83996 mL	0.33069 mL	0.23678 mL	1.15005 mL	0.02500 mL	2.031	-0.08808	0.98668	0.00
53:44.6	Data point 91	0.83996 mL	0.33069 mL	0.27119 mL	1.15005 mL	0.02500 mL	2.232	-0.00563	0.62691	0.00
54:12.1	Data point 92	0.83996 mL	0.33069 mL	0.28975 mL	1.15005 mL	0.02500 mL	2.426	0.00057	0.00484	0.00
54:29.1	Data point 93	0.83996 mL	0.33069 mL	0.30115 mL	1.15005 mL	0.02500 mL	2.611	-0.02655	0.89412	0.00
54:45.9	Data point 94	0.83996 mL	0.33069 mL	0.30870 mL	1.15005 mL	0.02500 mL	2.798	-0.03851	0.77316	0.00
55:02.7	Data point 95	0.83996 mL	0.33069 mL	0.31355 mL	1.15005 mL	0.02500 mL	2.966	-0.00076	0.00639	0.00
55:29.8	Data point 96	0.83996 mL	0.33069 mL	0.31658 mL	1.15005 mL	0.02500 mL	3.156	0.00379	0.41519	0.00
55:46.6	Data point 97	0.83996 mL	0.33069 mL	0.31867 mL	1.15005 mL	0.02500 mL	3.338	-0.00894	0.44445	0.00
56:03.2	Data point 98	0.83996 mL	0.33069 mL	0.32004 mL	1.15005 mL	0.02500 mL	3.512	-0.00224	0.04418	0.00
56:19.9	Data point 99	0.83996 mL	0.33069 mL	0.32095 mL	1.15005 mL	0.02500 mL	3.648	-0.00170	0.04527	0.00
56:41.7	Data point 100	0.83996 mL	0.33069 mL	0.32220 mL	1.15005 mL	0.02500 mL	3.982	-0.02166	0.55788	0.00
57:03.5	Data point 101	0.83996 mL	0.33069 mL	0.32279 mL	1.15005 mL	0.02500 mL	4.350	-0.01439	0.31696	0.00
57:25.3	Data point 102	0.83996 mL	0.33069 mL	0.32307 mL	1.15005 mL	0.02500 mL	4.627	0.05170	0.84742	0.00

Sample name: **Pyridoxine HCl**
 Assay name: **UV-metric psKa**
 Assay ID: **18E-22012**
 Filename: **C:\Sirius_T3\18E-22012_Pyridoxine HCl_UV-metric psKa_0417936-0002.t3r**

Experiment start time: **5/22/2018 1:35:32 PM**
 Analyst: **Dorothy Levorse**
 Instrument ID: **T311053**

Events (continued)

Time	Event	Water	Acid	Base	Methanol	Buffer	pH	dpH/dt	pH R-squared	pH SD
57:52.1	Data point 103	0.83996 mL	0.33069 mL	0.32326 mL	1.15005 mL	0.02500 mL	4.862	0.09807	0.98201	0.0048
58:16.4	Data point 104	0.83996 mL	0.33069 mL	0.32338 mL	1.15005 mL	0.02500 mL	5.139	0.10044	0.98603	0.0049
58:45.1	Data point 105	0.83996 mL	0.33069 mL	0.32347 mL	1.15005 mL	0.02500 mL	5.502	0.09952	0.99014	0.0049
59:19.5	Data point 106	0.83996 mL	0.33069 mL	0.32356 mL	1.15005 mL	0.02500 mL	5.819	0.09839	0.98916	0.0048
59:51.8	Data point 107	0.83996 mL	0.33069 mL	0.32366 mL	1.15005 mL	0.02500 mL	6.103	0.08461	0.95372	0.0042
1:00:18.6	Data point 108	0.83996 mL	0.33069 mL	0.32375 mL	1.15005 mL	0.02500 mL	6.366	0.10097	0.99631	0.0049
1:00:44.9	Data point 109	0.83996 mL	0.33069 mL	0.32385 mL	1.15005 mL	0.02500 mL	6.627	0.05492	0.47103	0.0039
1:01:07.1	Data point 110	0.83996 mL	0.33069 mL	0.32394 mL	1.15005 mL	0.02500 mL	6.921	0.01022	0.01630	0.0039
1:01:29.4	Data point 111	0.83996 mL	0.33069 mL	0.32404 mL	1.15005 mL	0.02500 mL	7.131	0.05833	0.48152	0.0041
1:02:01.4	Data point 112	0.83996 mL	0.33069 mL	0.32418 mL	1.15005 mL	0.02500 mL	7.395	0.08476	0.89782	0.0044
1:02:34.0	Data point 113	0.83996 mL	0.33069 mL	0.32429 mL	1.15005 mL	0.02500 mL	7.625	0.09737	0.97849	0.0048
1:03:10.1	Data point 114	0.83996 mL	0.33069 mL	0.32441 mL	1.15005 mL	0.02500 mL	7.873	0.09424	0.97098	0.0047
1:03:42.9	Data point 115	0.83996 mL	0.33069 mL	0.32451 mL	1.15005 mL	0.02500 mL	8.130	0.09645	0.97593	0.0048
1:04:18.3	Data point 116	0.83996 mL	0.33069 mL	0.32460 mL	1.15005 mL	0.02500 mL	8.395	0.09492	0.96995	0.0047
1:04:53.8	Data point 117	0.83996 mL	0.33069 mL	0.32469 mL	1.15005 mL	0.02500 mL	8.646	0.09985	0.98247	0.0049
1:05:26.6	Data point 118	0.83996 mL	0.33069 mL	0.32481 mL	1.15005 mL	0.02500 mL	8.911	0.09333	0.97592	0.0046
1:05:57.7	Data point 119	0.83996 mL	0.33069 mL	0.32493 mL	1.15005 mL	0.02500 mL	9.117	0.09309	0.94545	0.0047
1:06:26.2	Data point 120	0.83996 mL	0.33069 mL	0.32507 mL	1.15005 mL	0.02500 mL	9.326	0.05680	0.95349	0.0028
1:06:58.2	Data point 121	0.83996 mL	0.33069 mL	0.32526 mL	1.15005 mL	0.02500 mL	9.534	0.03945	0.95262	0.0020
1:07:30.2	Data point 122	0.83996 mL	0.33069 mL	0.32549 mL	1.15005 mL	0.02500 mL	9.731	0.02642	0.90136	0.0013
1:08:02.3	Data point 123	0.83996 mL	0.33069 mL	0.32580 mL	1.15005 mL	0.02500 mL	9.925	0.01362	0.89676	0.0007
1:08:34.4	Data point 124	0.83996 mL	0.33069 mL	0.32622 mL	1.15005 mL	0.02500 mL	10.126	0.00814	0.78502	0.0004
1:09:06.4	Data point 125	0.83996 mL	0.33069 mL	0.32679 mL	1.15005 mL	0.02500 mL	10.323	0.00010	0.00079	0.0001
1:09:38.6	Data point 126	0.83996 mL	0.33069 mL	0.32759 mL	1.15005 mL	0.02500 mL	10.517	-0.00127	0.08704	0.0002
1:10:10.7	Data point 127	0.83996 mL	0.33069 mL	0.32874 mL	1.15005 mL	0.02500 mL	10.711	0.00091	0.07225	0.0001
1:10:27.4	Data point 128	0.83996 mL	0.33069 mL	0.33036 mL	1.15005 mL	0.02500 mL	10.893	-0.01567	0.87536	0.0008
1:10:44.2	Data point 129	0.83996 mL	0.33069 mL	0.33281 mL	1.15005 mL	0.02500 mL	11.068	-0.01611	0.91877	0.0008
1:11:01.0	Data point 130	0.83996 mL	0.33069 mL	0.33645 mL	1.15005 mL	0.02500 mL	11.272	-0.01619	0.83924	0.0008
1:11:17.8	Data point 131	0.83996 mL	0.33069 mL	0.34229 mL	1.15005 mL	0.02500 mL	11.456	-0.01685	0.83927	0.0009
1:11:34.6	Data point 132	0.83996 mL	0.33069 mL	0.35129 mL	1.15005 mL	0.02500 mL	11.645	-0.00973	0.51831	0.0006
1:11:51.7	Data point 133	0.83996 mL	0.33069 mL	0.36536 mL	1.15005 mL	0.02500 mL	11.836	-0.01126	0.81764	0.0006
1:12:08.9	Data point 134	0.83996 mL	0.33069 mL	0.38768 mL	1.15005 mL	0.02500 mL	12.023	-0.01291	0.77056	0.0007
1:14:14.2	Assay volumes	1.08996 mL	0.49567 mL	0.38768 mL	1.15005 mL	0.02500 mL				

Assay Settings

Setting	Value	Original Value	Date/Time changed	Imported from
General Settings				
Analyst name	Dorothy Levorse			
Separate reference vial	Yes			
Standard Experiment Settings				
Number of titrations	3			
Minimum pH	2.000			
Maximum pH	12.000			
pH step between points of	0.200			
Minimum titrant addition	0.00002 mL			
Maximum titrant addition	0.10000 mL			
Argon flow rate	100%			
Start titration using	Cautious pH adjust			
Advanced General Settings				
Detect turbidity using	Spectrometer			
Monitor at a wavelength of	500.0 nm			
Absorbance threshold of	0.100			
Collect turbidity sensor data	No			
Stir after titrant addition for	5 seconds			
For titrant addition, stir at	15%			
Titant Pre-Dose				
Titant pre-dose	None			



Assay Settings

Sample name: **Pyridoxine HCl**
Assay name: **UV-metric psKa**
Assay ID: **18E-22012**
Filename: **C:\Sirius_T3\18E-22012_Pyridoxine HCl_UV-metric psKa_0417936-0002.t3r**

Experiment start time: **5/22/2018 1:35:32 PM**
Analyst: **Dorothy Levorse**
Instrument ID: **T311053**

Assay Settings (continued)

Setting	Value	Original Value	Date/Time changed	Imported from
Assay Medium				
Cosolvent in use	Yes			
Cosolvent type	Methanol			
Cosolvent volume	1.15 mL			
Cosolvent added	Automatic			
ISA water volume	0.35 mL			
Water added	Automatic			
After water addition, stir for	5 seconds			
At a speed of	15%			
Buffer in use	Yes			
Buffer type	Phosphate Buffer			
Volume of buffer introduced	0.025000 mL			
Add buffer manually	Manual			
After medium addition, stir for	5 seconds			
Sample Sonication				
Sonicate	No			
Sample Dissolution				
Perform a dissolution stage	No			
Carbonate purge				
Perform a carbonate purge	No			
Temperature Control				
Wait for temperature	Yes			
Required start temperature	25.0°C			
Acceptable deviation	0.5°C			
Time to wait	60 seconds			
Stir speed of	15%			
Titration 1				
Titrate from	Low to high pH			
Adjust to start pH	Yes			
After pH adjust stir for	10 seconds			
Titration 2				
Titrate from	Low to high pH			
Additional cosolvent volume	0.00 mL			
Add additional water	0.15 mL			
Additional water added	Automatic			
After pH adjust stir for	10 seconds			
Titration 3				
Titrate from	Low to high pH			
Additional cosolvent volume	0.00 mL			
Add additional water	0.34 mL			
Additional water added	Automatic			
After pH adjust stir for	10 seconds			
Data Point Stability				
Stir during data point collection	Yes			
For point collection, stir at	15%			
Delay before data point collection	0 seconds			
Number of points to average	20 points			
Time interval between points	0.50 seconds			
Required maximum standard deviation	0.00500 dpH/dt			
Stability timeout after	60 seconds			
Experiment cleanup				
Adjust pH to cleanup	To start pH			
And then stir for	60 seconds			
For cleaning, stir at	20%			
Then add water volume	0.25 mL			
And then stir for	30 seconds			



Sample name: **Pyridoxine HCl**
Assay name: **UV-metric psKa**
Assay ID: **18E-22012**
Filename: **C:\Sirius_T3\18E-22012_Pyridoxine HCl_UV-metric psKa_0417936-0002.t3r**

Experiment start time: **5/22/2018 1:35:32 PM**
Analyst: **Dorothy Levorse**
Instrument ID: **T311053**

Calibration Settings

Setting	Value	Date/Time changed	Imported from
Four-Plus alpha	0.144	5/22/2018 1:35:32 PM	C:\Sirius_T3\18E-22009_Blank standardisation.t3r
Four-Plus S	0.9948	5/22/2018 1:35:32 PM	C:\Sirius_T3\18E-22009_Blank standardisation.t3r
Four-Plus jH	1.0	5/22/2018 1:35:32 PM	C:\Sirius_T3\18E-22009_Blank standardisation.t3r
Four-Plus jOH	-0.8	5/22/2018 1:35:32 PM	C:\Sirius_T3\18E-22009_Blank standardisation.t3r
Base concentration factor	1.012	5/22/2018 1:35:32 PM	C:\Sirius_T3\KOH18D10.t3r
Acid concentration factor	0.998	5/22/2018 1:35:32 PM	C:\Sirius_T3\18E-22009_Blank standardisation.t3r

Instrument Settings

Setting	Value	Batch Id	Install date
Instrument owner	Merck		
Instrument ID	T311053		
Instrument type	T3 Simulator		
Software version	1.1.3.0		
Dispenser module		T3DM1100253	3/31/2009 6:24:52 AM
Dispenser 0	Water		3/31/2009 6:25:05 AM
Syringe volume	2.5 mL		
Firmware version	1.2.1(r2)		
Titrant	Water (0.15 M KCl)	2-6-18	5/15/2018 2:12:22 PM
Dispenser 2	Acid		3/31/2009 6:25:11 AM
Syringe volume	0.5 mL		
Firmware version	1.2.1(r2)		
Titrant	Acid (0.5 M HCl)	3-22-18	5/15/2018 2:12:48 PM
Dispenser 1	Base		3/31/2009 6:25:21 AM
Syringe volume	0.5 mL		
Firmware version	1.2.1(r2)		
Titrant	Base (0.5 M KOH)	3-22-18	5/15/2018 2:12:34 PM
Dispenser 5	Cosolvent		3/31/2009 6:26:24 AM
Syringe volume	2.5 mL		
Firmware version	1.2.1(r2)		
Distribution valve 5	Distribution Valve		3/31/2009 6:28:19 AM
Firmware version	1.1.3		
Port A	Methanol (80%, 0.15 M KCl)	2-8-18	5/15/2018 2:14:14 PM
Port B	Cyclohexane		4/10/2018 8:40:51 AM
Port C	MeCN (50%, 0.15 M KCl)	4-16-18	5/15/2018 2:14:20 PM
Dispenser 3	Buffer		8/3/2010 6:05:16 AM
Syringe volume	0.5 mL		
Firmware version	1.2.1(r2)		
Titrant	Dodecane	1-31-2018	5/15/2018 2:12:54 PM
Dispenser 6	Octanol		10/22/2010 11:52:43 AM
Syringe volume	0.5 mL		
Firmware version	1.2.1(r2)		
Titrant	Octanol	1-31-2018	4/9/2018 9:14:11 AM
Titration		T3TM1100153	3/31/2009 6:24:17 AM
Horizontal axis firmware version	1.17 AI1DI2DO2 Stepper 2		
Vertical axis firmware version	1.17 AI1DI2DO2 Stepper 2		
Chassis I/O firmware version	1.11 AI1DI0DO4 Norgren I/O		
Probe I/O firmware version	1.1.1		
Electrode	T3 Electrode	T3E0769	8/15/2017 10:21:54 AM
E0 calibration	-11.54 mV		5/22/2018 1:35:56 PM
Filling solution	3M KCl	KCL095	5/21/2018 8:57:01 AM
Liquids			
Wash 1	50% IPA:50% Water		5/22/2018 8:38:15 AM
Wash 2	0.5% Triton X-100 in H2O		5/22/2018 8:38:18 AM
Buffer position 1	pH7 Wash		5/22/2018 8:38:22 AM
Buffer position 2	pH 7		5/22/2018 8:38:25 AM
Storage position			5/22/2018 8:38:32 AM
Wash water	3.3e+003 mL	5-15-18	5/15/2018 2:11:48 PM



Assay Settings

Sample name: **Pyridoxine HCl**
Assay name: **UV-metric psKa**
Assay ID: **18E-22012**
Filename: **C:\Sirius_T3\18E-22012_Pyridoxine HCl_UV-metric psKa_0417936-0002.t3r**

Experiment start time: **5/22/2018 1:35:32 PM**
Analyst: **Dorothy Levorse**
Instrument ID: **T311053**

Instrument Settings (continued)

Setting	Value	Batch Id	Install date
Waste	7.1e+003 mL		3/19/2018 10:48:12 AM
Temperature controller			8/5/2010 7:35:13 AM
Turbidity detector			3/31/2009 6:24:45 AM
Spectrometer		072390	11/23/2010 12:22:28 PM
Dip probe		11086	
Wavelength coefficient A0	185.563		
Wavelength coefficient A1	2.17439		
Wavelength coefficient A2	-0.000285622		
Total lamp lit time	897:26:49		11/23/2010 12:22:28 PM
Calibrated on	5/21/2018 2:44:22 PM		
Integration time	19		
Scans averaged	10		
Autoloader		T3AL1100237	11/10/2015 10:34:13 AM
Left-right axis firmware version	1.17 AI1DI2DO2 Stepper 2		
Front-back axis firmware version	1.17 AI1DI2DO2 Stepper 2		
Vertical axis firmware version	1.17 AI1DI2DO2 Stepper 2		
Chassis I/O firmware version	1.11 AI1DI0DO4 Norgren I/O		
Configuration			
Alternate titration position	Titration position		
Alternate reference position	Reference position		
Maximum standard vial volume	3.50 mL		
Maximum alternate vial volume	25.00 mL		
Automatic action idle period	5 minute(s)		
Titrant tube volume	1.3 mL		
Syringe flush count	3.50		
Flowing wash pump volume	20.0 mL		
Flowing wash stir duration	5 s		
Flowing wash stir speed	30%		
Solvent wash stir duration	5 s		
Solvent wash stir speed	30%		
Surfactant wash stir duration	5 s		
Surfactant wash stir speed	30%		
E0 calibration minimum number of points	10		
E0 calibration maximum standard deviation	0.01500		
E0 calibration timeout period	60 s		
E0 calibration stir duration	5 s		
E0 calibration preparation stir speed	30%		
E0 calibration buffer wash stir duration	5 s		
E0 calibration buffer wash stir speed	30%		
E0 calibration reading stir speed	0%		
Spectrometer calibration stir duration	5 s		
Spectrometer calibration stir speed	30%		
Spectrometer calibration wash pump volume	20.0 mL		
Spectrometer calibration wash stir duration	5 s		
Spectrometer calibration wash stir speed	30%		
Overhead dispense height	10000		

Refinement Settings

Setting	Value	Default value
Turbidity detection method	Spectrometer	Spectrometer
Turbidity wavelength to assess	500.0 nm	500.0 nm
Turbidity maximum absorbance	0.100	0.100
Turbidity probe threshold	50.00	50.00
Exclude turbid points	Yes	Yes
Low intensity warning threshold	100	100
Minimum absorbance change threshold	0.100	0.100
Eigenvector autocorrelation threshold	0.80	0.80



Assay Settings

Sample name:	Pyridoxine HCl	Experiment start time:	5/22/2018 1:35:32 PM
Assay name:	UV-metric psKa	Analyst:	Dorothy Levorse
Assay ID:	18E-22012	Instrument ID:	T311053
Filename:	C:\Sirius_T3\18E-22012_Pyridoxine HCl_UV-metric psKa_0417936-0002.t3r		

Refinement Settings (continued)

Setting	Value	Default value
Maximum RMSD severe warning	0.250	0.250
Maximum RMSD warning	0.050	0.050

Tray Information

Title	
Location	B3